

Morphological typology of small watershed in river basins of cultivation area

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Abstract

The article proposed the technique of small watershed typification according to four morphometric characteristics, determining the energy of relief: average height, vertical segmentation, the density of ravine network and an average slope. An elementary catchment area is used as an operating-territorial unit. Ward's method was used to perform the typification. The zoning of catchment area allows to determine the ratio of different agricultural lands, to reduce the rate of soil erosion and the amount of sediments entering the channel of permanent and temporary streams through the slopes. The testing of technique was performed within the upper reaches of the r. Medveditsa basin and made it possible to distinguish 6 types of elementary catchments differing by relief energy, as well as to perform their ranking according to relief energy. The zoning map established as the result of the developed method use concerning elementary catchment types may be used for the improvement of land use structure based on the optimization of lands with different erosion hazard, and the inclusion in crop rotation, depending on their soil protection efficiency.

Keywords

Erosion, Morphological typology, River basin